treatment with either latanoprost or travoprost. A Bayesian network was constructed to study the association between daytime IOP and nocturnal IOP and treatment effects, adjusted for trial effects. **RESULTS:** A total of 382 daily IOP vectors were identified (pre-treatment: 208; latanoprost: 73; travoprost: 101). IOP at 08:00h was associated with IOP at 12:00h, which was associated with IOP at 16:00h. IOP at 20:00h was predicted by IOPs at 12:00h and 16:00h. The predicted nocturnal peak IOP was associated with IOPs at 12:00h and 20:00h. Travoprost controlled the latter IOPs (12:00h and 20:00h) better than latanoprost, increasing the probability of controlling nocturnal IOP peaks °Ý 18 mmHg (travoprost 76.9–77.5% versus latanoprost 66.7–67.9%). Untreated patients with a diagnosis of ocular hypertension had a high probability of developing a nocturnal IOP peak °Ý 18 mmHg (92.1%). **CONCLUSIONS:** Daytime IOP measurements are highly intercorrelated. IOPs at 12:00h and 20:00h were associated with the nocturnal IOP peak. Bayesian networks can estimate the risk of a night time IOP peak °Ý 18 mmHg. Daytime IOP control is important for nocturnal IOP control.

PEY2

EFFECTIVENESS OF TRAVOPROST VERSUS DORZOLAMIDE + TIMOLOL FIXED COMBINATION IN FIRST LINE TREATMENT OF GLAUCOMA: ANALYZED FROM THE UK GENERAL PRACTITIONER RESEARCH DATABASE

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OBJECTIVE: To compare the effectiveness of travoprost (Travatan®) and a dorzolamide+timolol fixed combination (Cosopt®) as alternative first line therapies for glaucoma using data from the UK General Practitioner Research Database (UK-GPRD). **METHODS:** Files of patients with ocular hypertension or glaucoma, treated topically, or by surgery or laser therapy, were extracted from the UK-GPRD. Patients starting first line treatment with travoprost, or the fixed dorzolamide+timolol combination, were selected. Treatment failure was defined as a prescription change (adding or removing a topical treatment). Time to treatment failure was compared between treatments by an adjusted Cox model. Propensity scores were used. **RESULTS:** Files on 56,612 patients were extracted of which 39,808 had at least one topical prescription for glaucoma. In total, 639 patients were treated with travoprost, and 387 with dorzolamide+timolol, as first line therapies. Demographic and health characteristics did not differ significantly between patient groups. Overall mean age at diagnosis was 70.0 years and 48.5% were male. Treatment failure at one year occurred in 30.4% of patients on travoprost and by 49.4% on dorzolamide+timolol ($p < 0.001$). The hazard ratio for failure was lower with travoprost (0.79: $p < 0.03$) after adjusting for age, gender, comorbidities and duration of follow-up. **CONCLUSION:** According to UK-GPRD information, travoprost appears to be more efficient than dorzolamide+timolol as first line therapy for glaucoma patients. Patients continue longer with travoprost as first line therapy.

PEY3

COMPARING EFFICACY OF PROSTAGLANDIN ANALOGUES FOR CONTROLLING INTRA-OCULAR PRESSURE (IOP): RESULTS OF A META-ANALYSIS

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OBJECTIVE: To compare the efficacy of latanoprost, bimatoprost and travoprost for controlling IOP. **METHODS:** Randomized trials were identified on Medline and Embase using the following key words: glaucoma, ocular hypertension (OHT), randomization, trial, latanoprost, bimatoprost and travoprost. The studies had to compare at least two prostaglandins in monotherapy. Cross-over experimental designs were excluded. IOP at baseline and final visit, age, gender, race and period of follow-up were collected. Main outcome measure was IOP at final visit. Statistical analyses included random effects pooled estimates of treatment effects, tests for publication bias, and random-effects models to obtain adjusted treatment effects on final IOP after controlling for baseline IOP, and duration of follow-up. We also estimated the number of responders (IOP < 18 mmHg) based on mean IOP value, standard deviation, and sample size. Random effects Poisson regression models were used to estimate the adjusted effects of treatments on response rates. **RESULTS:** A total of 224 papers were identified, including 15 randomized clinical trials. Nine studies were used in the analysis. Patient age varied from 56.7 to 68.8 years and baseline IOP ranged from 22.3 to 26.5 mmHg. At total of 378 patients were treated with bimatoprost, 385 with travoprost and 555 with latanoprost. Patients treated with travoprost and bimatoprost tended to have similarly lower IOP levels at the end of follow-up (–0.98 mmHg [95% CI: –2.08;0.13] and –1.04 mmHg [95% CI: –2.11;0.04], respectively) than those treated with latanoprost. The combined effect of newer prostaglandin analogues (bimatoprost/travoprost) was an adjusted decrease of 1.00 mmHg [95% CI: –1.91;–0.10], or a 17% higher adjusted response rate (Incidence Rate Ratio 1.17, 95% CI, 1.00–1.35, $p = 0.04$), compared to latanoprost. **CONCLUSION:** Travoprost and bimatoprost may have greater efficacy in controlling IOP for patients with OHT or glaucoma.

PEY4

EFFECTIVENESS OF BRIMONIDINE VERSUS BRINZOLAMIDE IN TREATMENT OF GLAUCOMA: AN ANALYSIS CONDUCTED ON THE UNITED-KINGDOM GENERAL PRACTITIONER RESEARCH DATABASE

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OBJECTIVE: To compare the effectiveness of brinzolamide (Azopt®) and brimonidine (Alphagan®) in the treatment of glaucoma according to the data collected in the United-Kingdom General Practitioner Research Database (UK-GPRD). **METHODS:** Files with a diagnosis of ocular hypertension, or glaucoma, or treated with a topical treatment surgery or laser were extracted. Patients with prescription for brimonidine or dorzolamide mono-therapy were selected regardless of treatment line (initial, second line, third, etc.). Treatment failure was defined as a prescription change (adding or removing a topical treatment). Time to treatment failure was compared using an adjusted Cox model. Adjustment for confounding factors used the propensity score method. **RESULTS:** A total of 56,612 patients were extracted and 39,808 patients had at least one topical prescription for glaucoma. A total of 2175 were treated with brimonidine and 482 with brinzolamide monotherapy. No significant difference in the characteristics of the patients was found. Patients were 69.5 years old on average at diagnosis and 46.5% were male. At one year, 54.4% of the brimonidine patients had a treatment failure versus 42.3% with brinzolamide ($P < 0.001$). The hazard ratio for a failure was 0.798 ($P < 0.001$) lower with brinzolamide, after adjusting for age, gender, and comorbidities. **CONCLUSION:** According to the UK-GPRD